



A Step Change Beyond the Same Old: Responding to the Evidence Base

Water NZ – 17 September 2014



Content

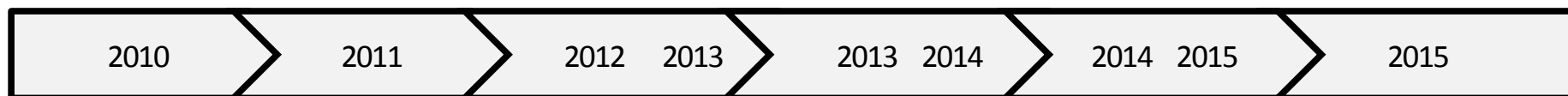
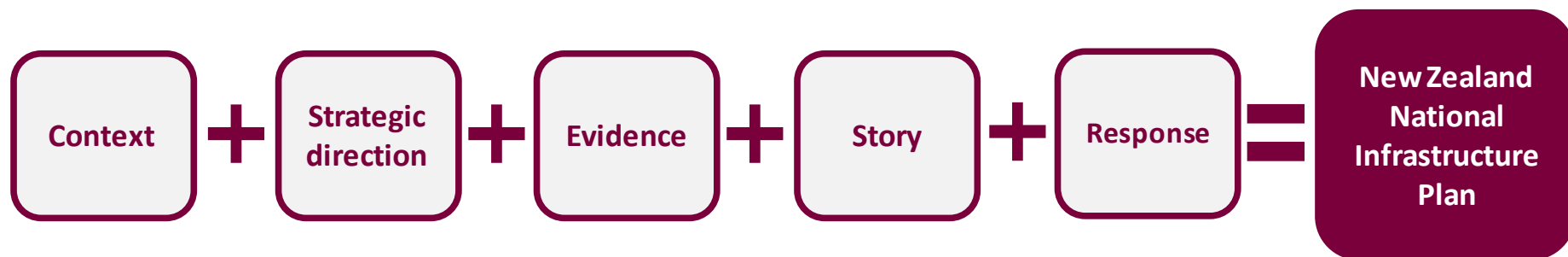
- The journey to date ...
- Water and the evidence base ...
- Where next ...
- A step change ...

*Key rider: Initial thinking,
not Government Policy.*



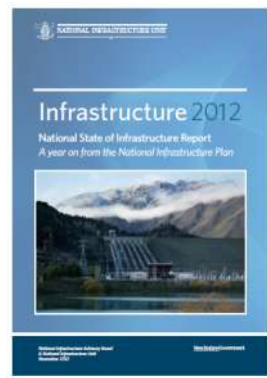
The journey to date ...





The National Infrastructure Unit

- Established 2009, located within Treasury.
- Work with central government, local government and private sector – facilitate and coordinate.
- Steered by the National Infrastructure Advisory Board.
- We are focused on supporting delivery of “*High performing infrastructure supporting higher living standards*”.



The Plan

- Strategic future focused document – common direction for how we plan, fund, use infrastructure
- A key purpose is increased certainty
- Two outcomes – demand and supply



Vision

By 2030 New Zealand's infrastructure is resilient, coordinated and contributes to economic growth and increased quality of life

Outcomes

Better use of existing infrastructure

Better allocation of new investment

Principles

Investment analysis

Accountability/ Performance

Resilience

Regulation

Funding mechanisms

Coordination



We are not alone ...



- “Estimates of the national infrastructure task are large, and range widely between \$450bn and \$770bn over the next decade”
(*Infrastructure Finance Working Group, Infrastructure Australia 2011*)
- New South Wales – recommending \$30bn of new infrastructure spend over the next 20 years
- \$33bn Building Canada Plan – Transport Canada estimates annual cost of congestion at \$2.3 - \$3.7bn (in 2002 \$)
- 2013 UK Infrastructure Plan included 646 projects worth over £375bn
- Cost to users in US of deficient and deteriorating surface infrastructure estimated at \$2,972bn by 2040 (*ASCE 2011*)
- \$57 trillion global infrastructure investment needed in 2013 – 2030 but ... \$1 trillion in annual savings possible from a 60% improvement in infrastructure productivity (*McKinsie Global Institute 2012*)



The six key areas in the Business Growth Agenda are:



- NIU and National Infrastructure Advisory Board – 2009
- Two National Infrastructure Plans – 2010, 2011
- Two National State of Infrastructure Reports – 2012, 2013
- Three BGA Infrastructure Progress Reports – 2012, 2013, 2014
- First National Infrastructure Evidence Base – 2014
- Investment Statement (Crown Balance Sheet) - 2014
- BBC and Capital Asset Management system evolution
- PPP introduction and evolution - five projects in progress
- \$16bn of infrastructure investment including major projects – RONS, UFB/RBI, KiwiRail, commuter rail, irrigation, electricity transmission upgrade



Expectations of the next Plan

1. Reinforce the current strategic direction (the vision and outcomes)
2. Mature the debate around future needs and responses
- 3. Be a collective infrastructure plan by NZ Inc across the private sector, central and local government**
4. Have increased specificity about the action plan and future investment programme required to achieve the strategic direction
- 5. Be underpinned by a more robust evidence base of future need and current performance**

Focus shifting from 3 and 5 → 2 and 4.



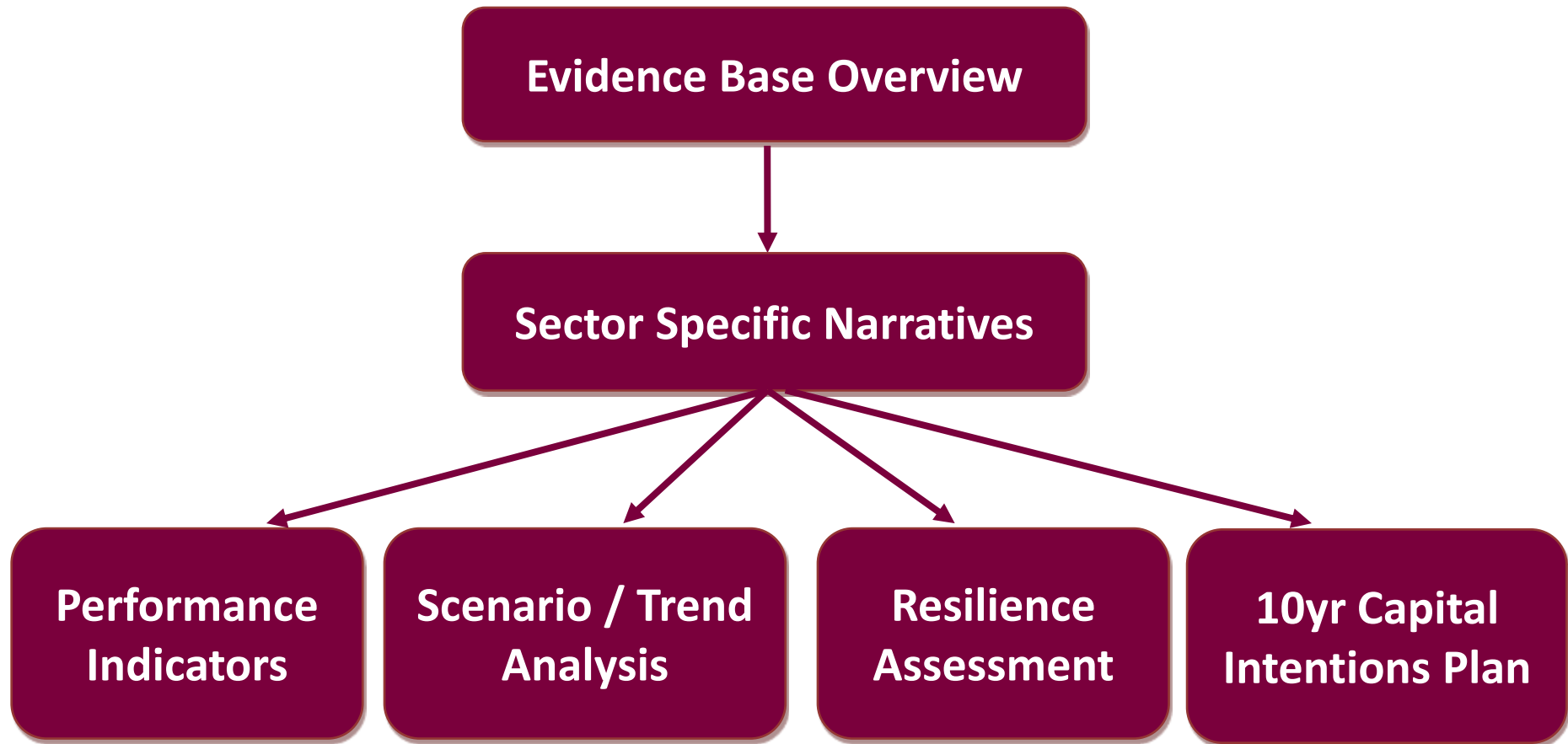
Framework	Focus	Key questions	Work programme (Action Plan)
Pressure	Future Infrastructure demands – drivers of demand	<ul style="list-style-type: none"> • What are the future drivers of demand? • How consistent is this view across the sectors? • Where are the most significant forecast deficits and the relative priorities of these? 	<ul style="list-style-type: none"> • Scenario modelling • Macro-regional planning • Resilience framework and issues
State	Current state and performance of infrastructure	<ul style="list-style-type: none"> • What quantity/volume of infrastructure do we have? • Where is it located? • What is the quality? • Does it deliver the appropriate level of resiliency? • What capacity do we have, how well is it utilised? • What is it costing? The price? 	<ul style="list-style-type: none"> • Performance Indicators framework • Resilience framework and issues
Response	Regulatory setting Funding arrangements	<ul style="list-style-type: none"> • How is it funded? • Who should be making the investment? • Are the regulatory settings optimised to facilitate the required level of investment? 	<ul style="list-style-type: none"> • Capital Intentions Plan • Demand management • Alternative sources of funding • Regulatory settings analysis



Water and the evidence base ...



Evidence base



Summary of findings

- The overall state of New Zealand infrastructure is positive.
- New Zealand has broadly the right infrastructure, in the right place, providing the right quality of service.
- However, there are a number of challenges ahead and traditional systems will not be sufficient to meet these.
- It will not be possible to address these challenges with supply side options alone, and infrastructure sectors will need to consider new ways to manage demand, deliver alternative sources of funding, and optimise investment where it is made.
- Changes in behaviour and technology will be crucial to delivering infrastructure services efficiently.



Urban water

Urban Water

Urban water networks continue to operate without widespread service failures. There is some concern, however, that aging infrastructure and increasing levels of asset deterioration may impact service reliability and require sizeable investment.

No consistent national data framework or asset data standards exist (definitions, formats, analytics, benchmarks). Also, application of guidance in the International Infrastructure Management Manual is variable across urban and rural councils.

Increasing consent requirements, particularly for wastewater and stormwater, are driving up costs & raising affordability questions for smaller/provincial local authorities.

The bottom line: There are two distinct stories - larger, urban areas with higher capacity, capability and rating base - often growing; and a second provincial story of static/declining population and rating base leading to lower capacity and capability. In each case, ageing networks and increasing consent requirements are adding to affordability pressures.

Priorities

Data quality, consistency and transparency

Demand forecasting

Asset management and planning

Affordability and Renewals

Regulatory Framework



Productive Water

Strategic Messages

There is a large variation in the condition, age and efficiency of irrigation infrastructure, and a correspondingly wide range of asset management practices from immature through to comprehensive programmes.

There is investment uncertainty regarding future nutrient management expectations – the ability to intensify land use alongside mitigation costs for implications of existing land use.

Sub-optimal infrastructure development may occur if inefficient processes are adopted to address the necessary iterative cycle of uptake, design, finance and consent considerations within business case management.

The bottom line: Existing and future schemes (and the associated land use) face increasing liability, changing management structures, higher environmental standards & greater investment scrutiny. This raises affordability & intergenerational issues and a need to better understand where the costs and benefits sit – requiring transparent and robust investment analysis.

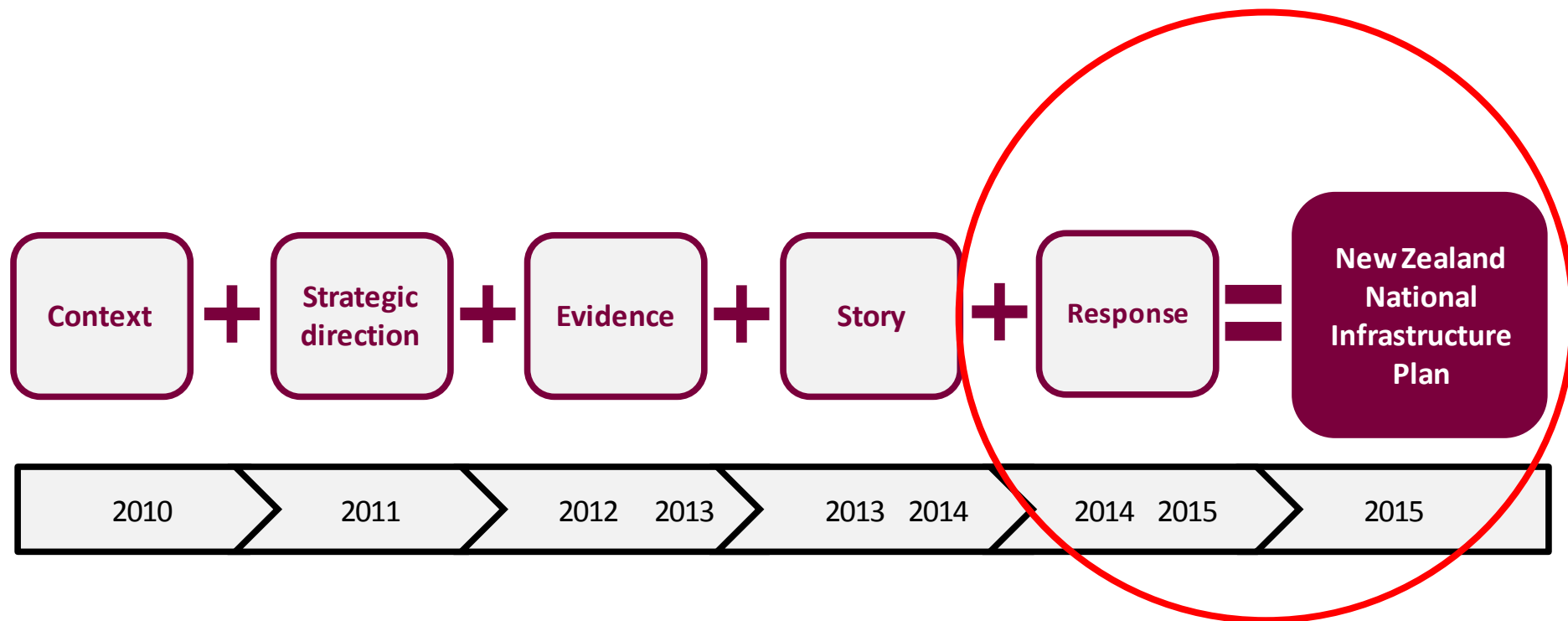
Priorities

Data quality, consistency and transparency
Consideration of processes relating to business case management
Asset management and planning
Affordability and Investment certainty
Climate change and future security of supply, inc. storage



Where next ...





Underway

- Drawing together:
 - The development and publication of the evidence base, done with stakeholders;
 - Series of workshops across New Zealand involving stakeholders from private sector, central and local government;
 - Discussions with key sector stakeholders including Ministers, Business NZ and sector bodies.

Issues/
Priorities



Work
underway



Gap analysis



Options to fill
the gaps



Initial 9 Priority Themes & Issues

Vision:

Changing patterns of demand.
Technology impact.
Relationship to economic growth.
Community expectations and levels of service.

Economy:

Relationship to economic growth.
Drivers and opportunities of regional growth.
Links and impact on other economic priorities and policies.

Regional integration and collaboration:

Regional collaboration – vision, planning, investment.
Integration of land use planning and infrastructure – especially transport.

Data and asset management

Data quality, consistency and transparency.
Asset management maturity.
Understanding and measuring network performance.
Informed decision making.

Resilience:

Understanding of criticality and key pinchpoints/bottlenecks.
Climate change and adaptation.
Supply chains and security.
Levels of service.

Decision making:

Data/informed decision making.
Optimisation of networks.
Cross sector coordination/prioritisation.
Auckland investment.
Governance and management.
Procurement opportunities
Useful “tools” to drive conversations.

Demand Management:

Improving asset utilisation.
Understanding of decisions makers and communities.
Levels of service.

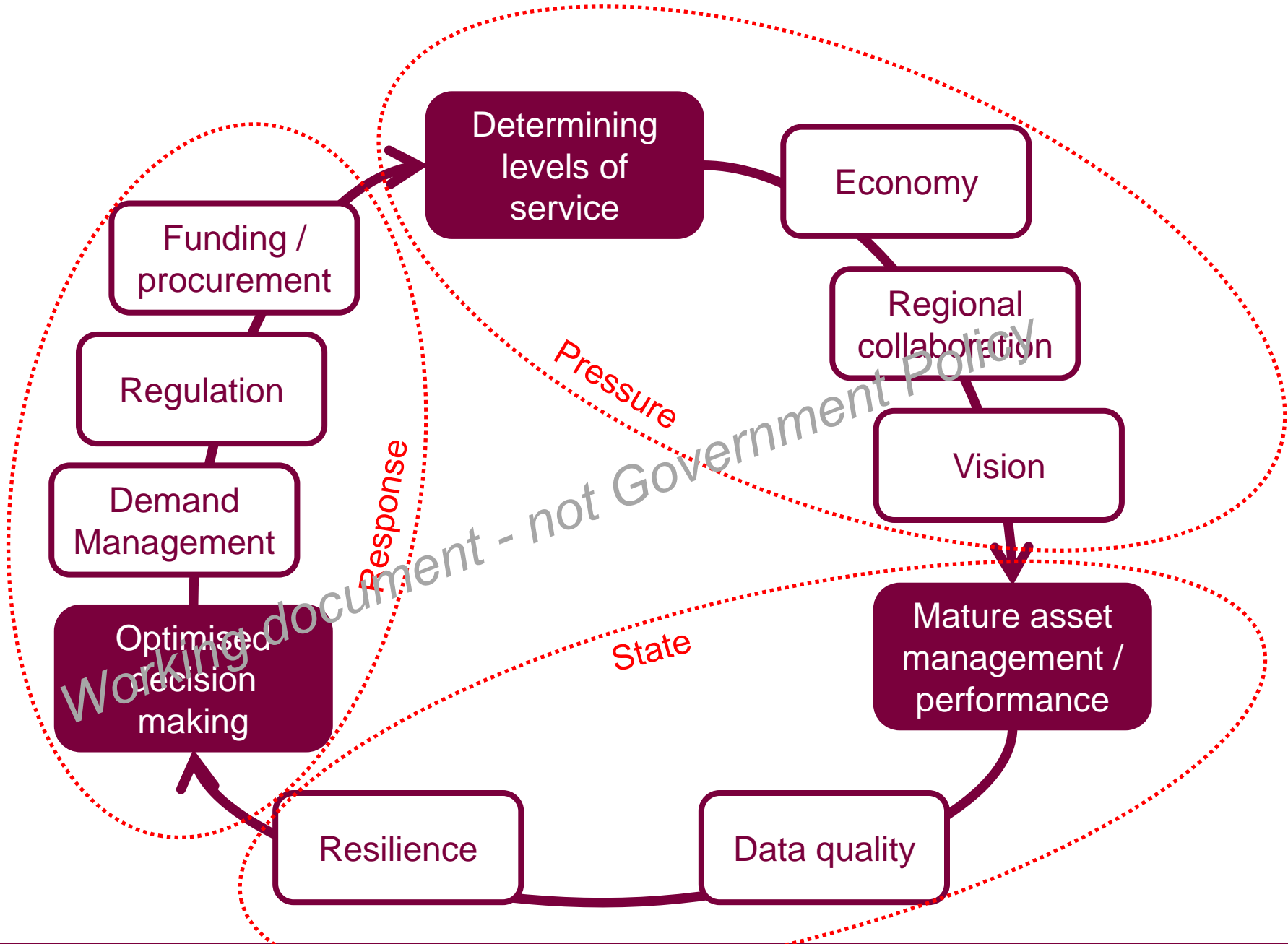
Regulations/standards:

Consideration of cost implications.
Clarity on roles and responsibilities.
Future proofing.
Inconsistencies across planning legislation.
Levels of service.

Funding:

Affordability and investment certainty.
Alternative sources of funding.
Cross-sector prioritisation.
Pipeline and visibility.





Response Programme → National Infrastructure Plan

July Aug **Sept** Oct Nov Dec Jan **Feb** Mar Apr May Jun July **Aug**

2014

2015

Gap analysis

Develop options

Consultation

Ministers Briefing

High level options

Way forward

Evidence updating

Develop options

Consultation

Symposium papers

Evidence Base

Updated story

Symposium

Regional w/shops

Option refinement

Approval process

Consultation

2015 Plan

Detailed action plan

Launch August 2015

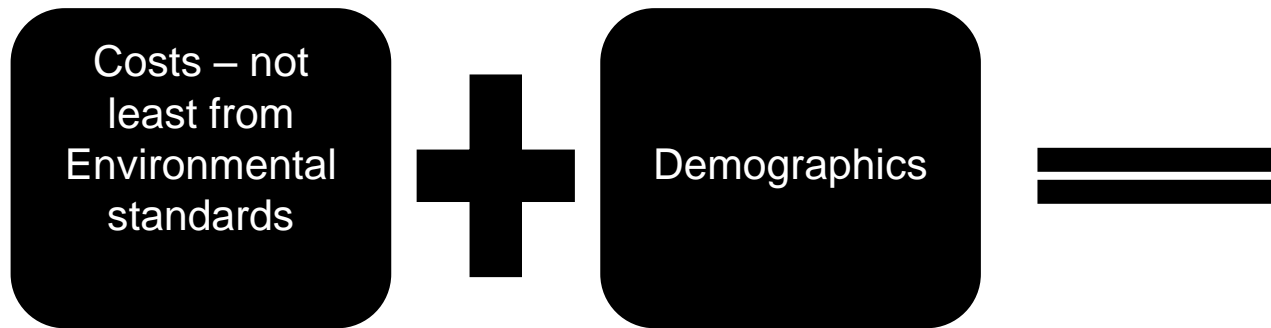


A step change ...



Central premise

“The forces of nature coming this way are not pretty and requires a major step up – led by the water sector.”



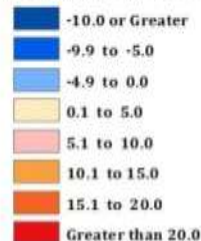
Percentage Change in Usually Resident Population Territorial Authorities, 2006-2013

1 Far North	34 Waikato
2 Whangarei	35 Hastings
3 Kaipara	36 Napier
4 Auckland	37 Central Hawke's Bay
5 Thames-Coromandel	38 Upper Hutt
6 Hauraki	39 Lower Hutt
7 Waikato	40 Wellington
8 Manurewa-Papakō	41 Masterton
9 Hamilton	42 Carterton
10 Waipa	43 South Waikato
11 Otago	44 Tairānui
12 South Waikato	45 Nelson
13 Waikato	46 Marlborough
14 Taupo	47 Kaitiaki
15 Western Bay of Plenty	48 Buller
16 Tairānui	49 Grey
17 Rotorua	50 Westland
18 Whakatane	51 Haurangi
19 Stratford	52 Waimakariri
20 South Tairānui	53 Selwyn
21 Ruapehu	54 Ashburton
22 Wanganui	55 Timaru
23 Rangitikei	56 Mackenzie
24 Manurewa	57 Wairarapa
25 Palmerston North	58 Wairarapa
26 Tairānui	59 Central Otago
27 New Plymouth	60 Queenstown-Lakes
28 Horowhenua	61 Dunedin
29 Kapiti Coast	62 Clutha
30 Porirua	63 Southland
31 Kaitiaki	64 Gore
32 Otago	65 Invercargill
33 Gisborne	66 Christchurch

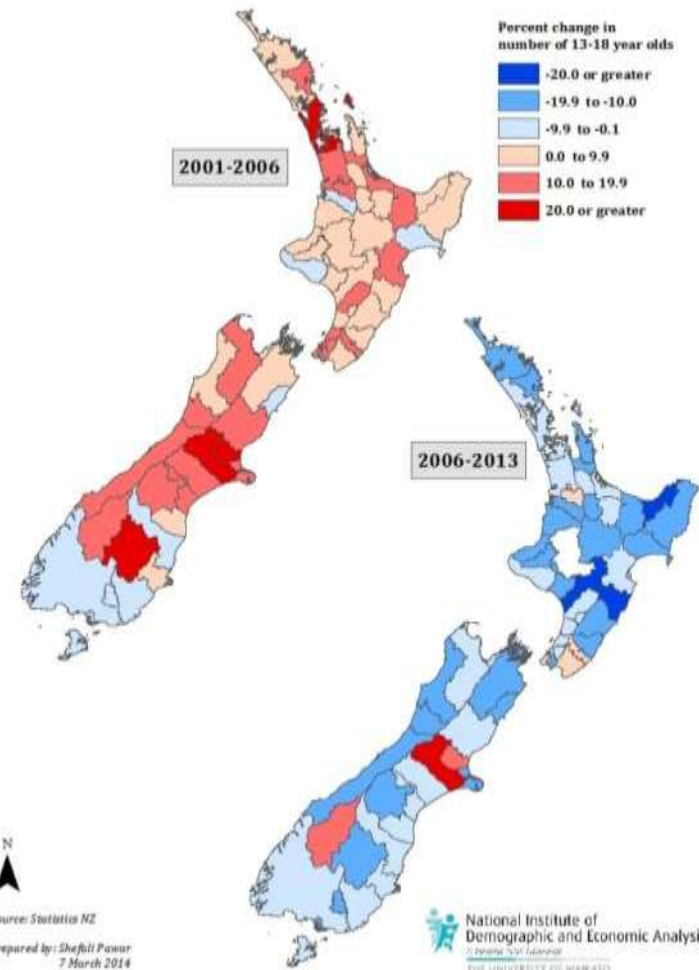
Source: Statistics NZ

National Institute of
Demographic and Economic Analysis
in partnership with
THE UNIVERSITY OF WAIKATO

% Change, 2006-2013



Percent change in number of 13-18 year olds



- 613 CAUs declined 2006-2013 (33% of 1869) – up from 25% 2001-06
- Between 2011 and 2031 all growth in 56 (84%) Territorial Authority Areas is projected to be at 65+ years; all are projected to see overall decline at 0-64 years



Revealed: Councils' dirty little secret

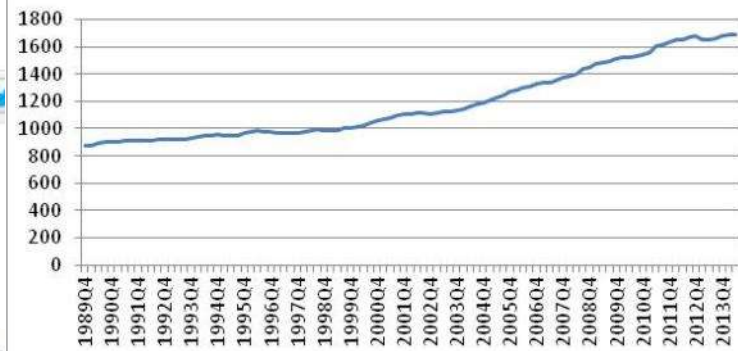
MARTY SHARPE

Last updated 08:29 07/09/2014



Like

49



for Freshwater Management 2014

issued by notice in gazette on 4 July 2014

Councils pay up for discharges

MARTY SHARPE

Last updated 05:00 20/08/2012

Councils around the country have been stung \$153,000 for 123 indiscretions, including discharging human effluent into waterways, during the past four years.



1



0



8+1



Share

What needs to be done

The community will work together to decide what is best for its region. The specific circumstances of local users and the economic, environmental and social

effects of rules and limits on the region of the mix. This will result in greater understanding, water agreement, and better, longer-lasting decisions.

Better water management

Table 5.7: Rates

Scenario	2013	2016	2021	2026	2031
Households	20,613	20,890	20,840	20,730	20,520
Businesses	4,280	4,509	4,716	4,902	5,067
	1,121	1,118	1,120		
	566	414	304		
	430	429	430		
	2,118	1,961	1,854		

Figures released under the Local Government Official Information and Meetings Act reveal that in the six financial years from 2007/08 to 2013/14 there were 179 actions - infringement notices, abatement notices or prosecutions - against 49 councils.

Sixty-five of those involved the discharging of untreated or partially treated wastewater to water - a rate of one every five weeks over six years. Twelve involved discharging the same to land.

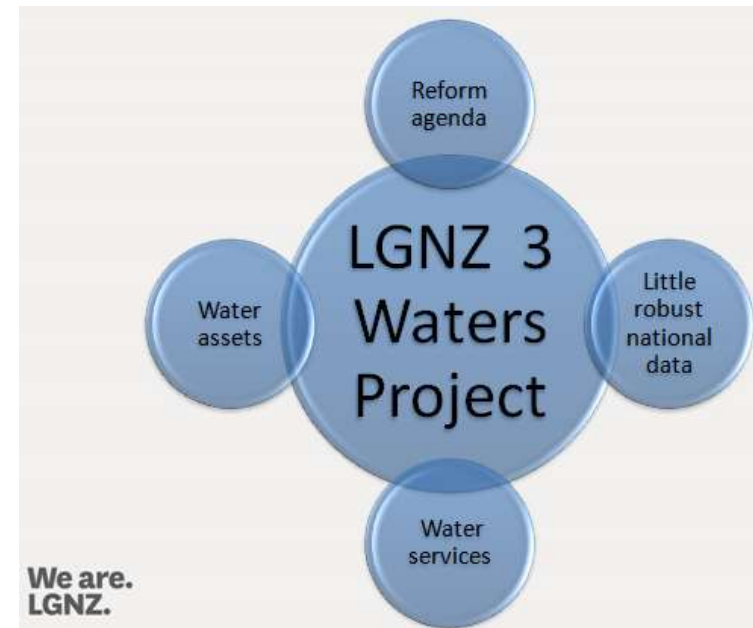
The Step Change

- Sector ownership
- Lifting the debate
- Focus on the basics
- Look beyond the borders
- Innovation



#1: Sector ownership

- Issues or distractions?
- Reluctance to benchmark?
- Less than full response to LGNZ 3-Waters data collection
 - Significant data gaps
- Asset management variability?



#2 Lifting the debate

“The definition of insanity is doing the same thing over and over and expecting different results”

- Need to shift the paradigm – lift the thinking
- Communities.
- Levels of service.
- Tools.



mountaintidetech on flickr



#3 Focus on the basics

- Forget the fancy, are we doing best practice asset management?
- Are we utilising our assets as well as we can be?
- Are we making good decisions?
- How do we know?

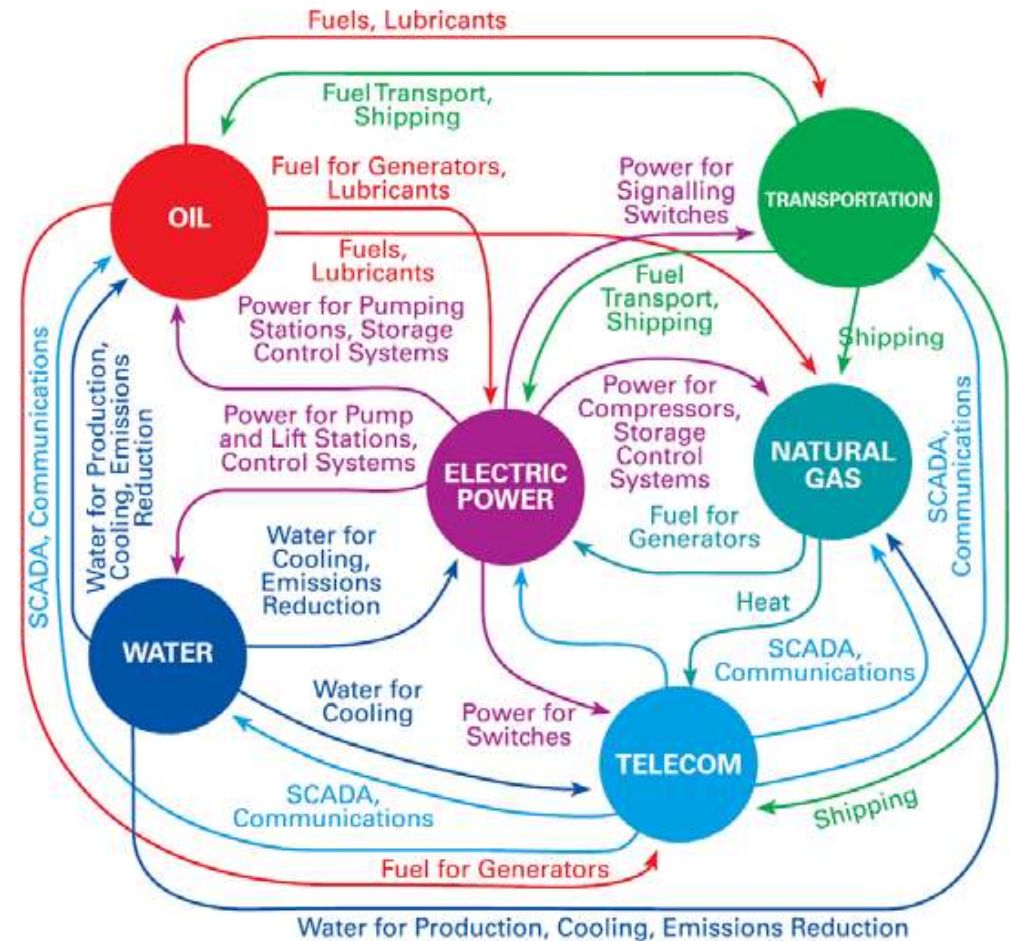
“Selecting the right projects is the most important aspect of achieving good outcomes for the community from public infrastructure.”

*Australia Productivity Commission
Public infrastructure 2014*



#4 Look beyond the borders

- Unprecedented levels of dependency and integration – is our planning reflecting this?
- Who else is also in this space?
- An integrated vision - demand?



#5 Innovation

- Collaboration & the private sector - dirty words?
- Innovation and opportunities
- \$11bn capex spend on water.
 - 150+ over \$10m
 - 133 average \$58m





NATIONAL INFRASTRUCTURE UNIT

National Infrastructure Unit

The Treasury

1 The Terrace

PO Box 3724

Wellington

New Zealand

www.infrastructure.govt.nz

info@infrastructure.govt.nz

